

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Improvements relating to Thread-Cutting Devices

We, GLANZSTOFF-COURTAULDS GMBH, a German body corporate, of Kohn-Weidenpesch, Neusser Landstrasse 2, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

When warp threads, for example those of viscose, are wound onto a warp beam it is important that individual threads should not become over-stretched. By using suitably formed yarn packages and by regulating the thread tension the number of over-stretched threads can be substantially reduced, but in spite of these measures it is difficult to avoid the occurrence of over-stretched threads completely. An ordinary stop mechanism can also be used to stop winding automatically when a thread breaks. However, particularly in the case of relatively elastic materials, a thread may become gradually more and more over-stretched without breaking, and this may result in the production of a poor fabric. Alternatively, the thread may eventually break if the tension becomes even greater and it may then be necessary to turn the warp beam backwards to remove the length of over-stretched thread.

According to this invention we provide a device which cuts a thread when the tension in it becomes too great. This device comprises a cutter and a thread guide pivotally mounted to move against the action of a spring under increasing tension in the thread and in so moving to carry the thread into contact with the cutter.

In a very simple and effective machine, a thread coming from a creel is first led through a stationary thread guide, through a thread brake and then through the thread guide of the device according to the invention to the warp machine. The pivotally mounted thread guide is held in its normal operative position by the spring. If, however, a predetermined thread tension is exceeded, the thread guide

moves so far towards the cutter that the thread is instantaneously cut. The cutter may consist of two fixed or adjustable sharp knives. At the moment of cutting, a stop motion associated with the device comes into action and stops the warp machine. The advantage of this device is that threads can never become over-stretched, because the maximum permissible thread tension is adjustable through the spring and as soon as this tension is exceeded the pivotally mounted thread guide is moved towards the cutter, the thread is cut and the warp machine stopped.

The invention is illustrated in the accompanying drawings in which:—

Figure 1 is a plan view, partly in section, of a device according to the invention; and

Figure 2 is a perspective view of the same device shortly before a thread is cut.

A viscose thread 4 is led from a creel (not shown) through a stationary thread guide 5 and a pivotally mounted thread guide 1 on its way to a warp beam (also not shown). The thread guide 1 is movable in an anti-clockwise direction against the action of a spiral spring 2. In its normal working position, that is when the thread 4 is under the correct tension, the guide will be in the position indicated by 1a. As the tension in the thread 4 increases the guide moves towards a V-shaped cutter 3. The spring 2 is adjustable so that as the tension in the thread approaches a pre-determined value the guide 1 will pass through the position shown in Figure 2 to that shown in dotted lines by 1b in Figure 1, when the thread will be cut by the cutter 3. In the case of a viscose thread this pre-determined value may be of the order of 0.3 g./den., which is approximately the maximum tension permissible in practice.

WHAT WE CLAIM IS:—

1. A device for cutting a thread when the tension in it reaches a pre-determined value comprising a cutter and a thread guide pivotally mounted to move against the action of a spring under increasing tension in the thread

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and in so moving to carry the thread into contact with the cutter.

2. A device according to claim 1 substantially as herein described with reference to the accompanying drawings.

5 3. In combination, a device according to claim 1 or claim 2 and a stop motion.

For the Applicants:—

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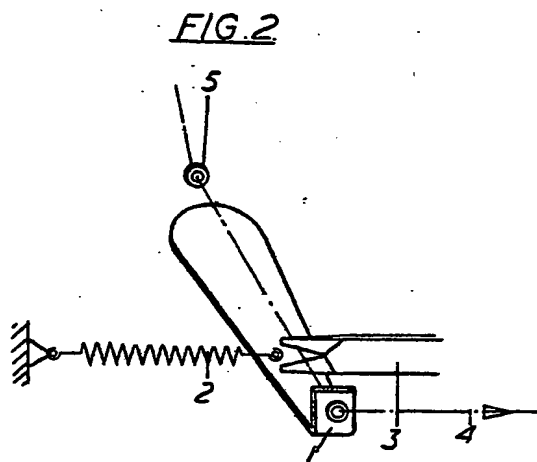
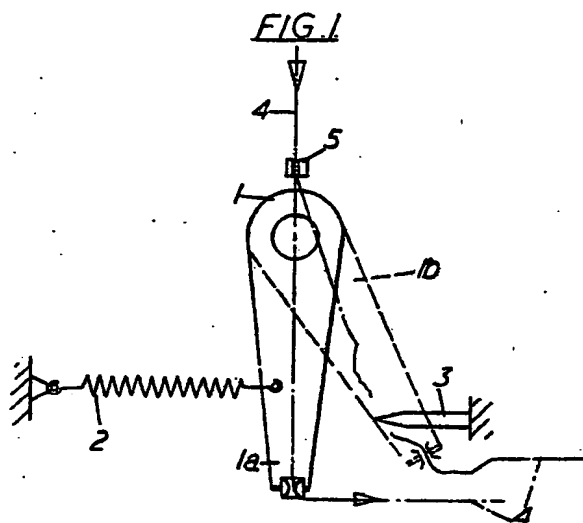
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1 SHEET

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